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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,527	05/17/2007	Etsuo Shinmura	291601US40PCT	6233
22850	7590	02/02/2011	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			FORD, JOHN K	
			ART UNIT	PAPER NUMBER
			3784	
			NOTIFICATION DATE	DELIVERY MODE
			02/02/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/581,527	Applicant(s) SHINMURA ET AL.	
	Examiner John K. Ford	Art Unit 3784	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 4-12 and 17-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 13-16 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/10/08 and 6/2/06</u> | 6) <input type="checkbox"/> Other: _____ |

Applicant's response of 07 January 2011 has been carefully considered.

Applicant's election of Group I (apparatus claims) and the election of the species of Figures 1 and 2 (claims 1-3, 13-16 and 23), both elections made with traverse, is acknowledged.

The dual assertions of overlapping searches and no undue burden are noted but are not deemed persuasive because they are merely that; assertions without proof. Furthermore, these assertions contradict the examiner's experience and reasoning set forth in the previous office action. In the absence of proof to the contrary the examiner's reasons stand and the traverse is deemed unpersuasive and the restriction and election requirements are deemed proper and made final.

An action on the merits as to claims 1-3, 13-16 and 23 is set forth below.

The examiner sets forth a requirement for further information regarding the foreign prosecutions of the applications corresponding to the current one. Pursuant to MPEP 2001.06, if applicant has been granted any allowed claims in any foreign application corresponding to this application, copies of those allowed claims (in English) are required in response to this action. Likewise, if applicant has received any rejections beyond those already of record here, copies of those rejections (in English), copies of the rejected claims (in English) and foreign references relied upon in support of those rejections is also required.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 13-16 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The examiner incorporates by reference here the translation of German PTO office action dated 24 July 2008 which applicant has made of record here (note it is not listed on the IDS of 10 October 2008). As explained in that document it is extremely difficult to understand what the scope of the claims actually is.

Are you claiming just the heat releasing device and the evaporator in claim 1? Or are you claiming the heat releasing device, the evaporator and the passenger compartment of a vehicle in claim 1? Or are you claiming the heat releasing device, the evaporator, the passenger compartment of a vehicle and a compressor means for generating a supercritical pressure in claim 1? Or are you claiming something else? Make the scope of claim 1 clear so that the examiner does not have to guess what combination of elements is being claimed and which elements are merely recited as intended uses.

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The term “downstream side area of the refrigerant heat releasing passage” is vague in both claims 1 and 13. Do you mean the downstream side with respect to the refrigerant or the air? Make the claims clear.

Are you claiming just the heat releasing device in claim 13? Or are you claiming the heat releasing device and the passenger compartment of a vehicle in claim 13? Or are you claiming the heat releasing device, the passenger compartment of a vehicle and a compressor means for generating a supercritical pressure in claim 13? Or are you claiming something else? Make the scope of claim 13 clear so that the examiner does not have to guess what combination of elements is being claimed and which elements are merely recited as intended uses.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 13-16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ares et al (USP 4,711,094).

A heat releasing device comprised of three areas 18, 19 and 35 is shown in Figure 2. Refrigerant passes through sections 18 and 19 in parallel and then flows (see Figure 2) into a “downstream side area” (using applicant’s ambiguous terminology) 35. An evaporator inlet (see Figure 1, elements 27-29) is connected to a conduit labeled “TO EVAP.” in Figure 2 and an evaporator outlet is connected to a pipe labeled “FROM EVAP.” in Figure 2. Air from the occupied space (deemed to be a “passenger compartment” for purposes of the rejection under 35 USC 102(b)) is passed over the heat exchanger 35 as “ventilation loss utilizing air” (using applicant’s ambiguous terminology).

Regarding claims 2 and 14, the relative sizes of the areas 18, 19 and 35 are not disclosed in Ares, however such variables are typically within the what one of ordinary skill in the art routinely specifies for different climatic conditions and heat loads for the conditioned space. One of ordinary skill in the art would tend to make areas 18 and 19 larger in very hot climates for maximum summer cooling. Similarly, one of ordinary skill in the art would tend to make area 35 smaller for a conditioned space that had a relatively small space cooling load. The exact ratio is therefore deemed a result effective variable and hence, absent any concrete evidence (i.e. test results) to the

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contrary, is a matter engineering specification of no particular patentable significance, in and of itself.

Claims 1-3, 13-16 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ares et al (USP 4,711,094) as applied to claims 1-3 and 13-16 above, and further in view of Kuroda et al (US 2003/0062152).

To have combined the teachings of Ares and Kuroda to have used the refrigeration circuit of Ares as described above in reference to Ares Figure 2, to have conditioned a vehicle compartment (as taught by Kuroda) as opposed to a building space (as taught by Ares) would have been obvious to one of ordinary skill in the art. Furthermore, to have used a compressor capable of delivering supercritical pressures when using carbon dioxide as a refrigerant is fairly taught in paragraph 0046 of Kuroda if this is to be construed as a part of claims 1 and 13. Carbon dioxide is advantageously inexpensive, nontoxic to humans and, in the event of a breach of the refrigeration system, does not destroy the earth's ozone layer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John K. Ford whose telephone number is 571-272-4911. The examiner can normally be reached on Mon.-Fri. 9-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John K. Ford/
Primary Examiner, Art Unit 3784

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